

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 **(original)**. A DNA analysis system which includes a unit that effects both extraction of DNA and amplification by identical replication of a region of interest of extracted DNA strands, with a proteinase, as defined, being used in the unit at least to effect extraction of DNA.

2 **(original)**. The system of claim 1 in which the amplification includes nucleotide sequence detection for the purpose of looking for specific sequences of DNA.

3 **(original)**. The system of claim 2 in which the unit includes an attached fluorimeter and light source.

4 **(original)**. A DNA analysis system which includes:
a thermal cycler operable as an extraction stage for extracting DNA from a sample to be tested and as an amplification stage for replicating identically a region of interest in DNA strands extracted from the sample, a proteinase, as defined, being used in the thermal cycler at least in the extraction stage;
a purification stage for purifying the amplified material from the thermal cycler;
and
an analysis stage for analysing the purified sample to obtain genetic information relating to the sample.

5 **(original)**. The system of claim 4 in which the analysis stage comprises a separation stage and a detection stage.

6 **(previously presented)**. The system of claim 4 which includes a sequencing stage preceding the analysis stage.

7 **(original)**. The system of claim 6 in which the thermal cycler is used for the sequencing stage.

8 **(previously presented)**. The system of claim 6 in which the purification stage incorporates a size filtration matrix comprising a gel filtration media incorporating a filtering resin, the matrix allowing larger fragments of DNA through from the amplification stage before any smaller fragments and other unwanted substances.

9 **(original)**. The system of claim 8 in which the larger fragments are collected for use in the sequencing stage.

10 **(original)**. The system of claim 9 in which the sequencing stage tags ends of the fragments with dideoxynucleoside triphosphates (ddNTP's) labelled with different fluorochromes before grading.

11 **(original)**. The system of claim 10 in which the grading forms the first step of the separation stage and incorporates separating the fragments into fragments of differing lengths by a separation device.

12 **(original)**. The system of claim 11 in which the separation device is an electrophoresis device.

13 **(original)**. The system of claim 12 in which the electrophoresis device is a capillary electrophoresis device and includes a detector for detecting information relating to tagged fluorescent nucleotides at the end of each of the DNA fragments.

14 **(original)**. The system of claim 13 in which the detector includes a laser device that irradiates the ends of the DNA fragments to cause the fluorescent ends to fluoresce.

15 **(original)**. The system of claim 14 which includes a reader for reading the fluorescent ends of the fragments.

16 (previously presented). The system of claim 4 in which the thermal cycler includes a controller which controls the various stages of preparation of the sample.

17 (original). The system of claim 16 in which the thermal cycler includes a heating mechanism for heating the sample, contained in one or more vials or test tubes, received in the thermal cycler.

18 (original). The system of claim 17 in which the heating mechanism is controlled by the microcontroller to maintain the sample at the required temperatures at the various stages of extraction, amplification and sequencing.

19 (previously presented). The system of claim 17 which includes a dispensing device for depositing the material to be analysed in the thermal cycler.

20 (original). The system of claim 19 in which the thermal cycler includes a holder for holding replacement tips for the dispensing device.

21 (original). The system of claim 20 in which the holder is arranged on the thermal cycler adjacent the heating mechanism within reach of the range of movements of the dispensing device.

22 (original). The system of claim 21 in which the holder includes reservoirs for various solutions adjacent the replacement tips.

23 (previously presented). The system of claim 20 in which the purification stage is mounted on the holder adjacent the heating mechanism of the thermal cycler.

24 (previously presented). The system of claim 4 which includes a monitoring means for monitoring the analysis stage.

25 (original). The system of claim 24 in which the monitoring means is in the form of a computer having a display on which data relating to the analysed sample are displayed.

26-57 (**cancelled**).